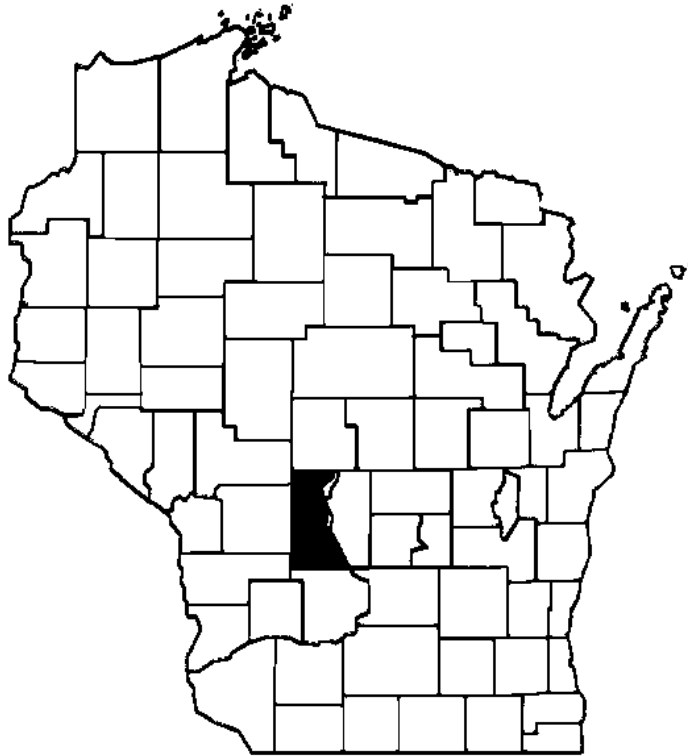


Juneau County



Modernization Plan

Juneau County
Land Records Modernization Plan
1999-2004

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Juneau County Land Records Modernization Plan 1999-2004

I. Executive Summary

A. Identification and Contact Information

Matt Vinopal
Land Information Office Coordinator/GIS Coordinator
220 East State Street Room 110
Mauston, WI 53948
Voice Phone 608-847-9446
Fax Phone 608-847-9312
Email Juneaulo@mwt.net

B. Participants in the Planning Process

The Juneau County Land Information Committee
James C. Barrett, County Board Chairman
Edward Brown, First Vice Chairman
Alan Peterson, Second Vice Chairman
Rosemary Aney, Information Systems Director
Christie Bender, Register of Deeds
Dave Donnelly, Zoning Administrator
Bryan H. Meyer, County Surveyor
Lori J. Scully, Real Property Specialist
Matt Vinopal, Land Information Office Coordinator

C. Summary of the Plan

The purpose of this plan is to outline a strategy for Juneau County land records modernization development, maintenance and distribution. The Juneau County Land Information System Plan is a developmental level plan that will be used to document the goals, objectives, and initiatives of the Land Information Office. The Plan is intended to provide county, town and city officials, state agencies, private entities and any other interested parties with basic knowledge of Juneau County's efforts in land records modernization and its potential applications.

A plan completed in 1996-documented prior Land Information System/Geographic Information System initiatives and established a framework for initial development steps. This plan will build on these earlier efforts. This plan is developed within the format specified by the Wisconsin Land Information Board guidelines dated September 1, 1997.

II. Land Information Modernization and Integration Plan

A. Goals and Objectives

1. It is the goal of Juneau County to develop a modern geographic information system (GIS) that is horizontally and vertically integrated; one that provides useful quality information for its citizens, agencies, businesses, and other users of land information in an equitable and efficient manner.

The objectives of Juneau County are:

- Continue remonumentation and geodetic control on public land survey (PLS) corners. In addition to continue maintenance of the previously monumented PLS corners.
- Completion of a countywide digital parcel map.
- Maintenance of existing digital base map.
- Acquisition of Personal Computers (PC's) for the Treasurer, Real Property Lister, Surveyor, and Zoning Administrator.
- Coordinate Juneau County land records modernization efforts with those of: Planning and Zoning, Register of Deeds, Land Conservation Department, Highway Department, Sheriff's Department; County Surveyor, Parks and Forestry; Department of Natural Resources, Treasurer; Emergency Management; Local Municipalities and the Private Sector.
- Juneau County will continue to make a concerted effort to discuss and forward ideas, and problems on to regional and state level as well as maintain representation in appropriate arenas.

In order to realize the goals and objectives of this plan the county must meet a number of critical success factors. Critical success factors are those attributes, assets, or skills that will be needed for the successful implementation of a GIS. The critical success factors include:

- County Board of Supervisors support and commitment.
- Coordinated Federal, State, and Local Government involvement with the development and implementation of a GIS program.
- An openness to new technology, improved workflow and reduced redundancy between departments and agencies participating in the Juneau County Land Records Modernization Program.
- Provide ongoing education and training of county GIS staff.
- Provide ongoing computer hardware and software upgrades as recommended by our Information Systems Department.

The efficient and effective implementation of a modern geographic information system that is horizontally and vertically integrated is dependent on the continuation of the Wisconsin Land Information Board (WLIB) grant program, retained fees collected and funding from the tax levy. Geographic information system implementation will increase the **quality** of the products and services offered to the public and minimize the need for the public to search from department to department for requested information.

- a. Juneau County is continuing to obtain the planimetric information it needs to continue to proceed with the parcel mapping and is acquiring the geodetic control on the PLS corners.
- b. A notice to the Juneau County Land Information Office or County Surveyor Office from the State Department of Transportation, County Highway Office, and/or the Local Townships concerning recovery and relocation of survey monuments that are disturbed during construction of state highways, local county roads and streets. In addition to providing monument and geodetic control information for monuments located within the Federal Necedah Wildlife Refuge.
- c. The Juneau County Land Information Office will confirm that the data is able to be translated and retrieved based upon the selection of a county wide GIS vendor, such as Environmental Systems Research Institute (ESRI)

B. Progress Report on Ongoing Activities.

Juneau County has committed to a three- (3) year contract with Aero-Metric Inc. of Chilton, WI through the year 2001 to continue to provide all necessary surveying, remonumentation and geodetic control for all Public Land Survey (PLS) corners. The remonumentation program will be a continuous project until the entire county is complete. Maintenance will be conducted on areas that have been monumented and provided with geodetic control through the County Surveyor Office.

Juneau County will also be obtaining digital black and white orthophotography for all of Juneau County. The orthophotography that Juneau County will be obtaining will be produced at a scale of 1" = 400' countywide and 1" = 100' for Cities and Villages. In addition the orthophotography will be produced at 1.5' pixel resolution.

There are many other methods of remote sensing. However, there are several reasons why black and white orthophotography is a good choice. The first and foremost is it is one of the least expensive methods. Many other methods of color and infrared remote sensing are much more expensive. Black and white orthophotos are not an inferior product. The photos have a high spatial resolution to identify the density of forests and buildings on parcels. Second, orthophotos are easy to use. The photos are formatted as Raster files that can be reproduced at any scale and distributed via paper, floppy diskette, or CD-ROM. Used with a GIS it is an invaluable layer to analyze flood plains, shorelines, forests, and parcels. A third attribute it provides is the centerlines of roads. When legal

descriptions include the parcel to the center of a road the orthophoto process will have established it. It may also answer questions as to what parcels have access to a road right of way. Finally, orthophotos retain their scale.

Juneau County is also utilizing a Computer Aided Drafting (CAD) based software program (PARCEL-IN©) to complete a parcel base map layer. Utilizing coordinate geometry (COGO) it is the ultimate goal of Juneau County to eventually produce an accurate cadastral map based on the county coordinate system and tied to the PLSS network.

C. New Initiatives.

1. Proposed Projects

The land records modernization of Juneau County will require the acquisition of Personal Computers (PC's) for the Treasurer, Real Property Lister, County Surveyor, and the Zoning Administrator. These people should all have basic office software and e-mail. With a PC these offices will then be able to access land records off of a network. The ability to query deed images, tax info, and survey data would provide for more efficiency and a backup to any and all hard copy data. This would also allow these departments to have access to the internet from which they can utilize Wisconsin Land Information Program (WLIP) Internet Land Information Clearinghouse and Technical Lister Server. Juneau County is also in the process of implementing an optical imaging system in the Register of Deeds Office for all recorded real estate documents. Other departments will be able to utilize this technology. The County Surveyor is also an office in need. The acquisition of a copying machine exclusively for surveys would be a benefit. It could require a monetary charge to defray the cost of toner and paper. Another benefit would be to enter all the survey information into a database that will allow it to query by surveyor, date, location, etc. This would serve as a backup to all the hard copy surveys. Many other counties have gone to such a system now as there is specific software made for this type of data.

In addition the remonumentation and geodetic control work being completed in Juneau County represents a large investment in terms of time and money. These corner locations will be utilized many times in the future. It is therefore important that these corner locations be protected. A warning sign stating that there is a corner nearby can be helpful in informing landowners, utility companies, road crews and others about these important corner locations. The signs could also state that there is a fine for disturbing or removing the corner and could give a telephone number of whom to contact if there were questions.

D. Custodial Responsibilities.

The following departments have been identified as potential users of an accurate land records GIS. Brief Summaries are included.

Real Property Specialist

The Juneau County Real Property Specialist maintains the county's assessment rolls, tax rolls and other related information on an IBM/AS 400 network. The database includes: computer number, owners name, owners address, type of deed, document number, assessments, and tax parcel maps.

Register of Deeds

The Register of Deeds Office receives, records, and/or files all real estate documents pertaining to land information. The system for locating these documents is by the grantor/grantee index or the tract index. These records are used daily by abstractors, attorneys, realtors, appraisers, credit bureaus and other county offices and the general public. The Real Property Specialist receives a photocopy of all documents that change ownership interest.

Planning and Zoning

The Juneau County Planning and Zoning Department administers and enforces ordinances that include comprehensive zoning, floodplain, shoreland zoning and sanitary and private sewage system ordinances.

Treasurer

The Juneau County Treasurers Office maintains all financial information for all tax parcels in the county. Other duties include planning and administering the county's tax collection system, managing tax settlements and administering the lottery credit program.

County Surveyor

The Juneau County surveyor office is responsible for maintaining an index and filing system for all surveys filed in the county, maintenance of the HARN and the Juneau County GPS Network, periodic inspection of areas that have been monumented and provided with geodetic control, attends Land Information Modernization Committee meetings, assists the general public as well as land related offices regarding interpretation of problems that may arise from filed surveys, prepares annual budget, and performs related work as required by state statutes.

Other Departments

There are various other departments within the county that will, in time, be able to share and use a developed county GIS. Departments such as Land Conservation, Highway, Sheriffs, Forestry, Emergency Government and the Extension Office will be able to utilize this technology.

E. Foundational Elements and State-Wide Standards

1. Communication, Education, Training and Facilitated Technical Assistance

Juneau County currently has access to the Internet, which allows for the utilization of the Wisconsin Land Information Board Clearinghouse and the technical assistance list server. This service is available to any person or department who wishes to access it.

2. Geographic Reference Frameworks

Geodetic Control Networks Public Land Survey System

The importance of developing high precision ground control for Juneau County can not be underestimated. Quality geodetic control is necessary for mapping activities, and most importantly, it determines the mathematically correct ground location of the framework (monumentation) which all-legal ownership information is based. With plane coordinates assigned to existing PLSS (Public Land Survey System) monumentation, the exact spatial relationship between monuments can be determined allowing accurate cadastral mapping efforts to take place.

Geodetic control networks. In 1996 Juneau County completed geodetic densification from the stations within the Wisconsin High Accuracy Reference Network (HARN). The network consist of 5 - 1ppm stations within the county, only 3 are networked within Juneau County. A total of 9-1ppm stations are networked between Adams, Juneau and Sauk County. In addition Juneau County established 14-2ppm stations with a total of 19 networked between Juneau, Monroe, and Wood counties in 1996. In addition 48-4ppm were established within Juneau County's network. This network was established using the 'Guidelines to Support Densification of the Wisconsin High Accuracy Reference Network (HARN) using Global Positioning System Technology' standards specifications which were current at that time This is adequate horizontal geodetic control placed strategically throughout the county to meet other users needs and ours. Coordinate values are available in Juneau County, State Plane, and Latitude/Longitude. The county assumes the responsibility for the densified control stations.

Public Land Survey System. Juneau County has an active remonumentation program that complies with the requirements if Wis Adm Code AE 7.08(2) and/or state statute, and we plan to continue the program countywide. We are establishing geodetic control on the PLS corners using a combination of conventional survey techniques and GPS technology meeting or exceeding the FGDC Third Order Class II for Horizontal Coordinate Values. Coordinates

are maintained in the Wisconsin Juneau County Coordinate System, which is mathematically relatable to the North American Datum (NAD) 83(91). We plan to continue remonumentation to assist in the development of a base parcel map. Areas to be remonumented and provided with geodetic control will be evaluated as need and budget allows.

3. Parcel Mapping

The primary focus of Juneau County is to complete and maintain an accurate parcel map. Our goal is to complete countywide parcel map in 5 years depending on budget and staff limitations.

Geodetic Reference. A reference frame, or survey control network, consisting of section corner and quarter corner monuments having geodetically based coordinates, is necessary for defining the relative spatial locations of all land related data and, as such comprises the first component for the cadastral map. The reference frame is constructed by precision placement of a monument symbol at all section, quarter section and meander corners. Computer software generates the section line work and associated textual data. Areas of the quarter quarter sections are computed based on the coordinate values of the quarter corners. The digital file containing the geodetic reference framework serves as the original or master section file. Files cover a complete PLSS section. Certified survey maps, subdivisions and other information is entered using coordinate geometry where it is properly placed and rotated to conform to the reference grid.

Topology. It is our plan to create topologically correct polygons for parcels.

Parcel ID. Every parcel identified on the cadastral map will have a unique parcel identification number assigned to it. The present County parcel identification number (PIN) does not fully conform to the WLIB parcel numbering system. This number is the key by which computerized tabular data from the Register of Deeds Office will be linked to the geographic location of the parcel. Currently, the software utilized for the input of parcel boundaries and text is PARCEL-IN ©, which runs in the AutoCad ® environment. Refer to the manual for more detail on the function of this software.

4. Parcel Administration

The Juneau County Real Property Description Office is responsible for the assignment of parcel identification numbers countywide. In addition the Real Property Description Office maintains an extensive parcel based tract, assessment role and grantor/grantee index warehoused on the IBM AS/400. A link will be developed to connect this data to the graphic parcel maps.

Juneau County has approved the purchase for document imaging within the Register of Deeds Office. As time and budget allows, we plan on inputting documents from prior years. In the future imaging could be expanded to include other land records such as building permits, tax records, survey maps, etc. This system will link imaged documents to the various indices maintained by the Register of Deeds.

5. Public Access

The County currently has 3 public access computer terminals available to the public for searching tabular property ownership data. Terminals are located in the Register of Deeds, Real Property Description Office and in the Treasurers Office. No remote access links are available at this time. The data available from the public access terminals is 'view-only' and is backed up by property security requirements.

Open Access to data in existing format. Juneau County adheres to the Wisconsin Open Records Law for access to any land record.

System Security. The AS/400 have built-in security, which is managed by a system administrator. The Information Systems Department maintains a back-up/ security plan for all data.

Right to privacy. Juneau County adheres to the Wisconsin Open Records Law and complies with State statutes for access to restricted records. Juneau County will monitor the industry and public concerns related to privacy and distribution of data as the data becomes available.

6. Zoning Mapping

Juneau County does have a Zoning Ordinance. Each Town produces their own Zoning maps. The Juneau County Zoning Office is currently in the process of revising the zoning ordinance that does exist.

Shorelands. Juneau County currently utilizes the USGS Quadrangle maps.

Floodplain and Floodway. The County presently uses the hardcopy FEMA/FIRM maps.

7. Soils Mapping

Juneau County currently uses the USDA Soil Survey of Juneau County (1991). Juneau County anticipates acquiring digital soil data and converting it to the county coordinate system when applicable. Once this data is available it will be available to anyone that wishes to access it.

8. Wetlands Mapping

Juneau County currently utilizes the Department of Natural Resources Wisconsin Wetland Inventory (WWI 1988). No plans have been initiated for the acquisition of this data. This issue will be discussed when the parcel base map is completed.

9. Institutional Arrangements and Integration

Formal data sharing agreements. Juneau County currently has many informal data sharing arrangements with other County departments, towns & city, consultants working for the towns or the County and State agencies. The county will pursue other formal arrangements as opportunities arise. The county encourages others to use our digital data by setting a nominal cost. We encourage cost-free exchanges of information that will assist in the development of our system. This is an issue that will be discussed during land records and technical advisory committee meetings.

Cooperative Arrangements. Juneau County has participated in other cooperative projects and plans on pursuing others as opportunities arise in the future. This is an issue that will be discussed during land records and technical advisory committee meetings.

10. Reconciled Election and Administrative Boundary

As parcel maps are created county and minor civil divisions' boundaries will be available. As information becomes available, utility, legislative, voting, school, and tax incremental financing districts will be integrated into the county GIS. No target date has been established for this information.

11. Reconciled Street Address and Street Network System

Streets, Roads, Highways, Bridges, Centerlines. The county plans to maintain its planimetric base map, which includes centerlines of all named public and private roads in the county.

Rights of way. The right-of-way of public roads will be developed as part of the parcel mapping process.

12. Land Use Mapping

Juneau County currently does not have a county wide land use map. The Planning Department will continue to work with local, regional, municipal, and private organizations to develop a comprehensive countywide land use plan. Upon completion the plan will require approval from the Juneau County Board of Supervisors and the Townships. The county tax database is designed

to include the Department of Revenue Land Use Classification assessment code for land use. A graphic representation could be generated dynamically when the parcel mapping is completed.

13. Natural Resources

Land Cover. Geology. Forests. Endangered resources. Impacts on the Environment. Watersheds. Hydrogeology. Hydrography. The County plans on acquiring these coverage's from the Department of Natural Resources when applicable and budget permits.

14. Database Design

Juneau County will follow industry-accepted standards for database design and system development. Much of the database design concerning parcel information was developed when the county automated the assessment role.

15. Infrastructure and Facility Management

Juneau County currently has no plans for infrastructure management. The development of infrastructure management is dependent on cooperation and Federal, State, and Local Government involvement with the development of infrastructure management.

F. Integration and Cooperation.

1. *Integrative/Cooperative relationships.* Juneau County has actively encouraged and supported integration and cooperation activities related to land records modernization. Juneau County seeks to develop further relationships with the cities, villages and towns and any neighboring counties that have similar activities.

Potential partners/projects. The Juneau County Land Information Office will work to formalize many of the informal relationships currently in effect with cities, villages and towns and any neighboring counties that have similar activities.

Data shared/used. The Digital County base map will be shared and used for the common registration of data sets. The horizontal control network and PLSS coordinates will be used to register new data sets.

G. Technical Standards Not Directly Associated With Foundational Elements.

1. State Agency GIS Data Interchange Standard, which includes the possible future adoption of the USGS *Content Standards for Digital Geospatial Metadata*. If and when the WLIB adopts this standard, Juneau County would review the data sets and the metadata that we have already created to see if it is in compliance with the new standard. An attempt will be made to comply where practical and economical.
2. Juneau County will follow the WLIB recommendation concerning procurement.
3. Transfer of Public Records to Optical Imaging, Wisconsin Admin. Code Chapter 12. Juneau County will comply.
4. Wisconsin Department of Administration Imaging Standards and Guidelines and Information Technology Infrastructure Standards. The County will review and determine the feasibility of using the guidelines and standards as appropriate and where practical.
5. See G-4.

H. Administrative Standards Not Associated With Foundational Elements.

This plan represents an agreement between Juneau County and the Wisconsin Land Information Board. This agreement is intended to effectuate the objectives of the Program as embodied in the enabling legislation. The board and the Juneau County Land Information Committee consent as follows:

1. The county agrees to observe and follow the statutes relating to the Wisconsin Land Information Program and other relevant statutes, as described in written materials provided by the WLIB.
2. The county agrees to permit the Wisconsin Land Information Board access to books, records and projects for inspection and audit including unannounced audits by the Board.
3. The county agrees to provide an Annual Status Report of Plan progress requested herein and to keep the Plan up to date. The report will be administered electronically.
4. The Board agrees to facilitate technical assistance to the county including an on-line Technical Assistance Service.
5. The Board agrees to maintain and distribute an inventory of land information and land information systems for the state. This will be provided through an electronic Clearinghouse
6. Development and implementation of an acceptable Land Records Modernization confers certain benefits on local government within a county, including continued eligibility for Program funding. A self-approving peer review process will be used to access Plan acceptability by the Land Information community.

7. The Board agrees to review funding requests and to provide guidance to local government with respect to the development of such requests.
8. The Board agrees to make available electronically on an annual basis, an Annual Report regarding the status of the Wisconsin Land Information Program and the activities of the Board.